Quality Assurance Auditors & Industry Conference
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Technical Inspection VS Quality System Auditing

Mike Yon
Alejandro (Alex) Velasco
MxV Rail/ MID Department

MxV Rail is a subsidiary of the Association of American Railroads (formerly TTCI)

QA. M-1003 Audit VS TECHNICAL INSPECTION

- Items included in a technical Inspection.
- How we prepare for the different audits.

Association of American Railroads

SAFETY AND OPERATIONS

MANUAL OF STANDARDS
AND
RECOMMENDED PRACTICES
SECTION J

SPECIFICATION FOR QUALITY ASSURANCE
SPECIFICATION M-1003

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Association of American Railroads

SAFETY AND OPERATIONS

MANUAL OF STANDARDS
AND
RECOMMENDED PRACTICES
SECTION H-II

ROLLER BEARING MANUAL

ISSUE OF 2021
Effective September 2021

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QA BENEFITS to TECHNICAL INSPECTION

- **The MID Inspectors use checklists to ensure that inspection of all items are covered during their inspections. Categories include:**

Activity Group A

Activity Code	Activity Description	AAR *Field Manual* Rule Reference	AAR Circular		Technical Approval Required
			Reference	Date	

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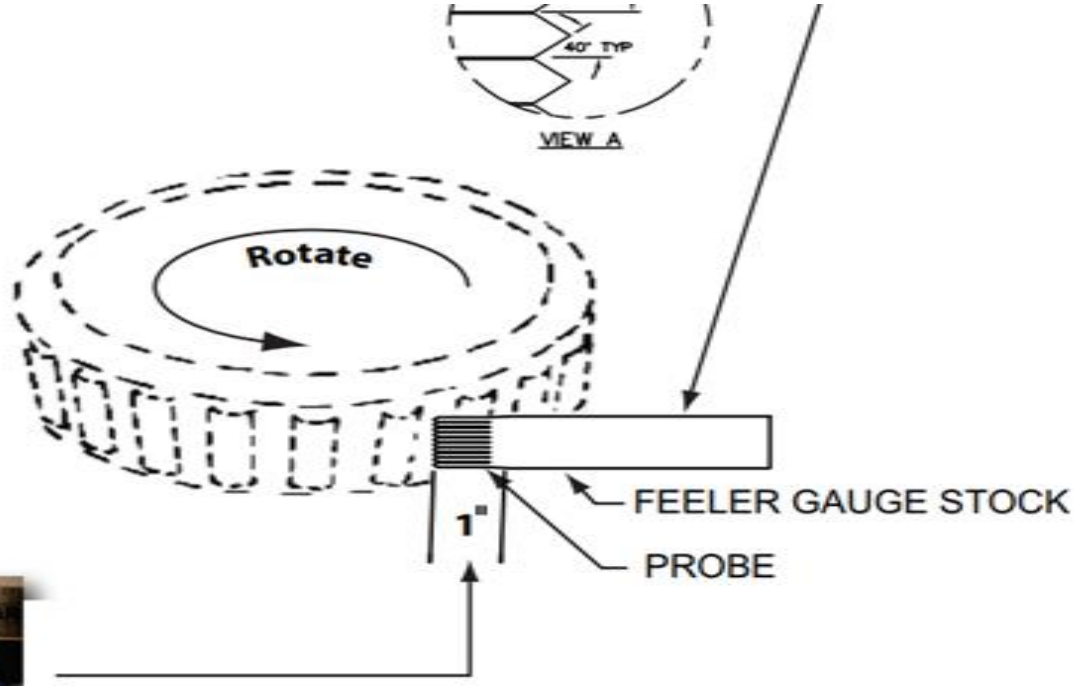
Checklist includes:

#	GUIDE FOR CERTIFICATION & INSPECTION OF ROLLER BEARING MAINTENANCE FACILITIES EQUIPMENT & GAGES REQUIRED	Maj	Mod	Min
1	Shop Master Gages (Class X tolerance, 3 year maximum certification) **MSRP H-II Rule 3.5.6 Masters, gauges, and the parts being gauged should be at approximately the same temperature**			
2	Dial Bore Gages (0.0001" increments)			
3	Micrometers or other Suitable Gages - Probes			
4	Backing Ring Gages (Including 1 ½" Radius Gage)			
5	Feeler Gages (Suitable) **MSRP H-II Rule 3.5.8 and Fig. 3.10**			



Place feeler of surface roughness tester between the roller and cage adjacent to both the large and small ribs, rotate inner ring. Any surface defects must be noted by roughness felt through the feeler gauge. Probes must be checked and replaced as tips wear to avoid loss of sensitivity.

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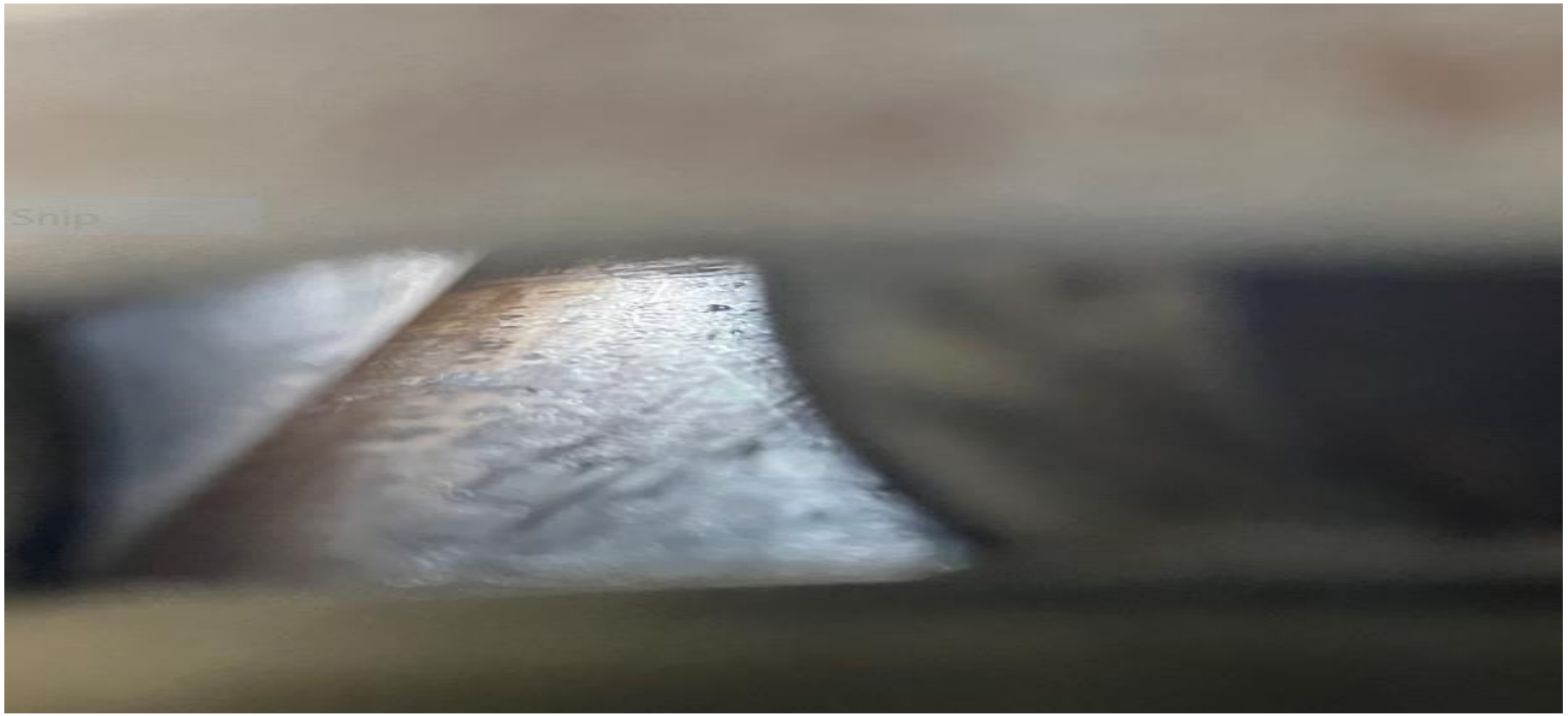
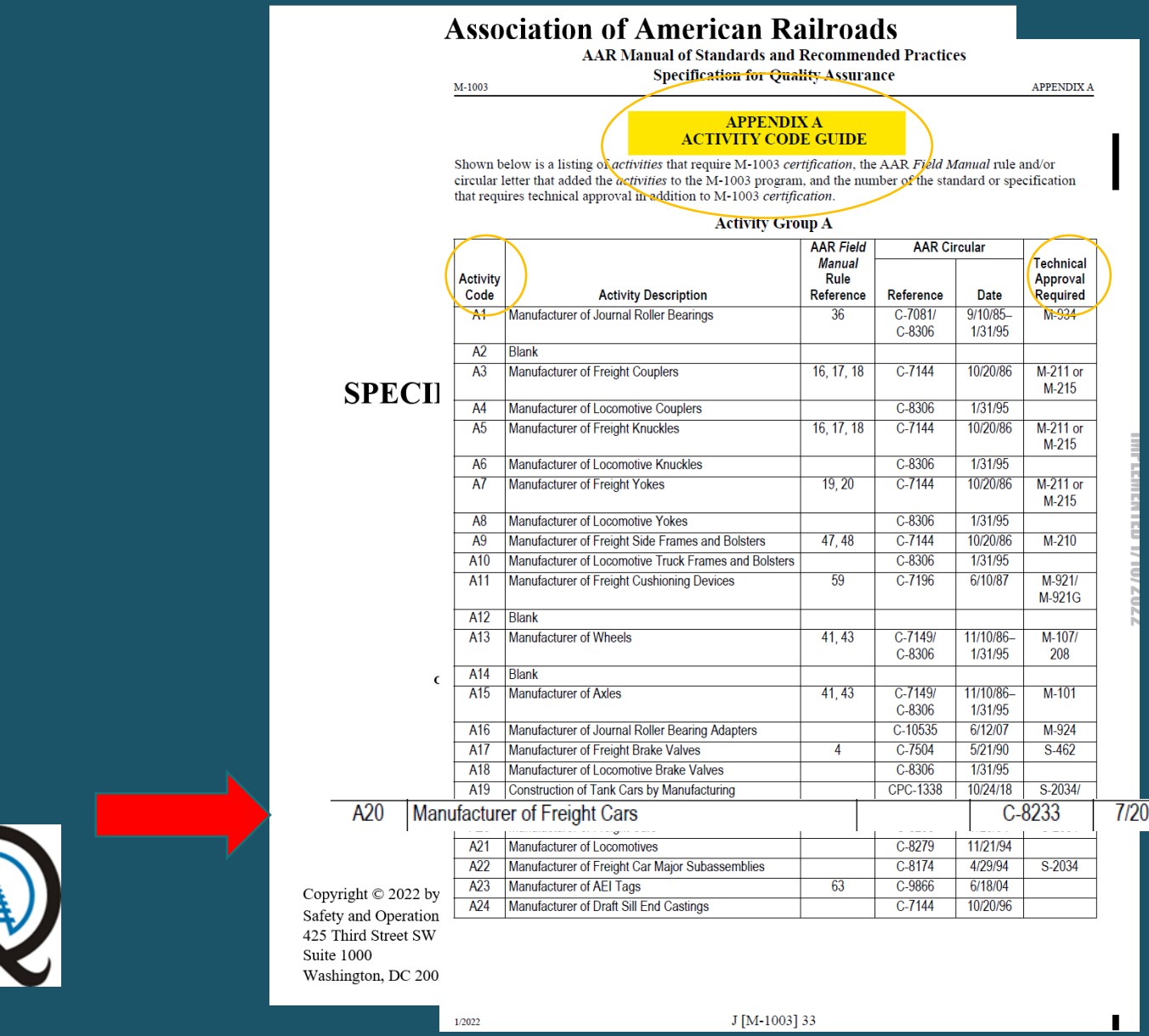


In summary :

- **Verify if technical approval is required**



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AAR Manual of Standards and Recommended Practices
Specification for Quality Assurance

M-1003 APPENDIX A

APPENDIX A
ACTIVITY CODE GUIDE

Shown below is a listing of *activities* that require M-1003 *certification*, the AAR *Field Manual* rule and/or circular letter that added the *activities* to the M-1003 program, and the number of the standard or specification that requires technical approval in addition to M-1003 *certification*.

Activity Group A

Activity Code	Activity Description	AAR *Field Manual* Rule Reference	AAR Circular		Technical Approval Required
			Reference	Date	
A1	Manufacturer of Journal Roller Bearings	36	C-7081/ C-8306	9/10/85– 1/31/95	M-934
A2	Blank				
A3	Manufacturer of Freight Couplers	16, 17, 18	C-7144	10/20/86	M-211 or M-215
A4	Manufacturer of Locomotive Couplers		C-8306	1/31/95	
A5	Manufacturer of Freight Knuckles	16, 17, 18	C-7144	10/20/86	M-211 or M-215
A6	Manufacturer of Locomotive Knuckles		C-8306	1/31/95	
A7	Manufacturer of Freight Yokes	19, 20	C-7144	10/20/86	M-211 or M-215
A8	Manufacturer of Locomotive Yokes		C-8306	1/31/95	
A9	Manufacturer of Freight Side Frames and Bolsters	47, 48	C-7144	10/20/86	M-210
A10	Manufacturer of Locomotive Truck Frames and Bolsters		C-8306	1/31/95	
A11	Manufacturer of Freight Cushioning Devices	59	C-7196	6/10/87	M-921/ M-921G
A12	Blank				
A13	Manufacturer of Wheels	41, 43	C-7149/ C-8306	11/10/86– 1/31/95	M-107/ 208
A14	Blank				
A15	Manufacturer of Axles	41, 43	C-7149/ C-8306	11/10/86– 1/31/95	M-101
A16	Manufacturer of Journal Roller Bearing Adapters		C-10535	6/12/07	M-924
A17	Manufacturer of Freight Brake Valves	4	C-7504	5/21/90	S-462
A18	Manufacturer of Locomotive Brake Valves		C-8306	1/31/95	
A19	Construction of Tank Cars by Manufacturing		CPC-1338	10/24/18	S-2034/
A20	Manufacturer of Freight Cars		C-8233	7/20/94	S-2034
A21	Manufacturer of Locomotives		C-8279	11/21/94	
A22	Manufacturer of Freight Car Major Subassemblies		C-8174	4/29/94	S-2034
A23	Manufacturer of AEI Tags	63	C-9866	6/18/04	
A24	Manufacturer of Draft Sill End Castings		C-7144	10/20/96	

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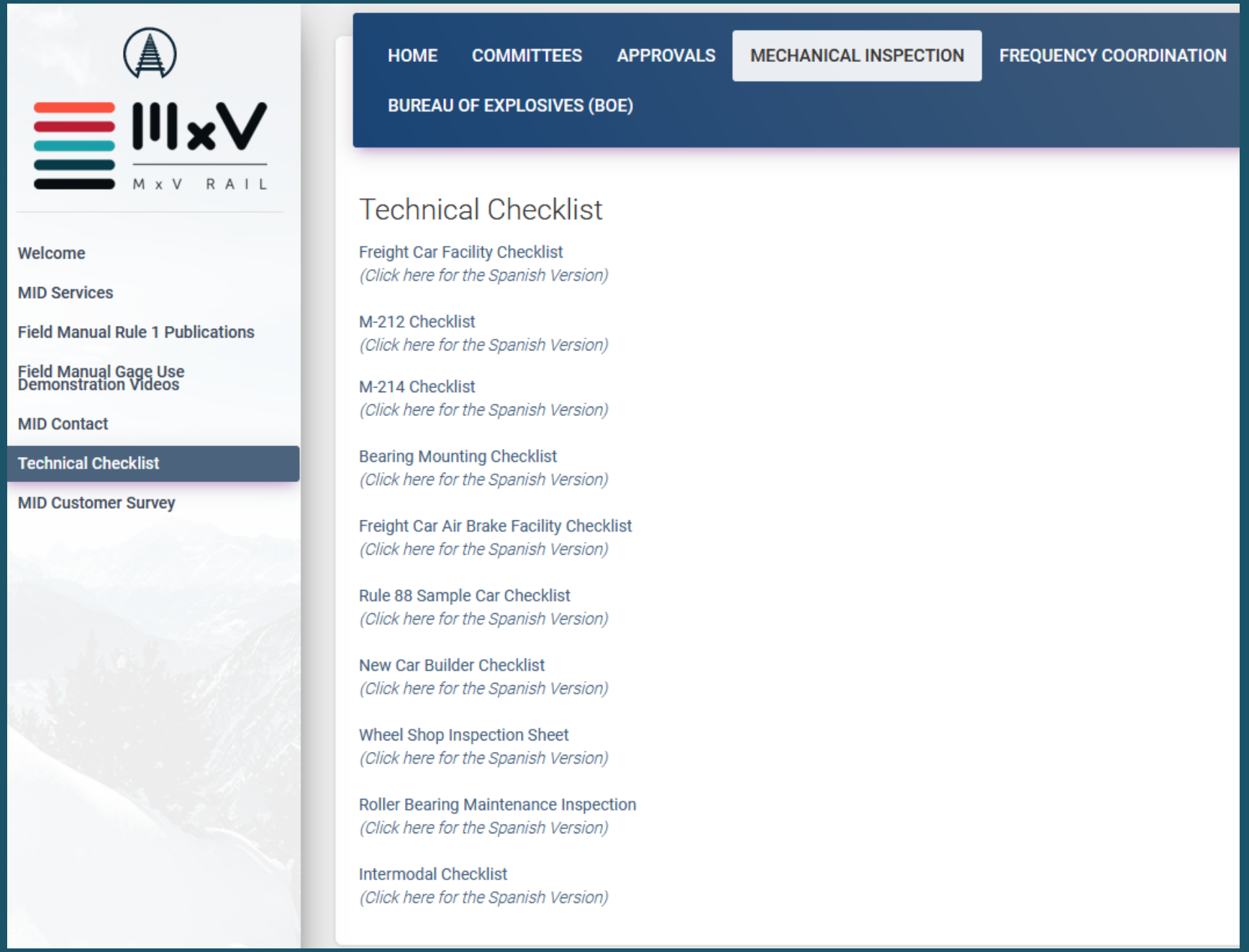
AAR Manual of Standards and Recommended Practices
Car Construction Fundamentals and Details

Table A.1 Inspection checklist for certification of car builders (page 1 of 3)

			✓
1.0	1.	**Management and Line Supervision**	
1.1	1.1	Does company policy indicate a recognition of separation of responsibility for production and quality control supervision functions?	
1.2	1.2	Does the organization chart clearly show lines of facility management authority and responsibility down to principal plant departmental supervisors?	
	1.3	Is there a written quality assurance program and is it disseminated as reflected by general attitude and awareness of quality assurance requirements?	
	1.4	Are assigned personnel for key positions in manufacturing qualified by training and experience?	
	1.5	Are supervisors qualified by experience and/or education or training programs?	
	2.	**Building Specifications**	
1.3	2.1	Are there adequate procedures to ensure that obsolete drawings and documents are destroyed or isolated from use?	
1.4	2.2	Are there adequate procedures for distributing new and revised drawings to the shop force?	
	2.3*	Where AAR approval is required by specifications, is sublet fabrication or manufacture awarded to manufacturers holding appropriate approval?	
2.0	2.4*	When suppliers new to car building are utilized, are adequate procedures utilized to ensure compliance with applicable specifications?	
2.1	2.5*	Are mill materials inspected upon receipt and marked for permanent identification?	
	2.6	Are all other purchased materials (wheels, brakes, castings, etc.) checked for conformance with the purchasing document upon receipt?	
	2.7*	Are records maintained and procedures functioning to ensure traceability of grade and, where required, heat numbers and material test reports for special requirements?	
	2.8*	Are mill test reports kept on file?	
2.2	2.9*	Are the materials identified when transferred from storage to the shop prior to processing?	
	2.10*	Is there a marking system that ensures the intended application of material cut from larger pieces?	
	2.11*	Is grade identification retained on material returned to stock?	
2.3	3.	**Welding, Fabrication, and Construction Practices**	
	3.1	Does the facility have a welding technician or an outside expert available on call to perform welding tests and resolve welding questions?	
	3.2	Does the person have the authority to control welding procedures in the shop?	
	3.3	Does this person control and/or "police" the setting of welding machines?	
	3.4	Are welders, welding operators, and welding procedures qualified per AWS Specification D15.1, latest revision?	
	3.5	Is there a record of welder and welding operator qualifications?	
09/20	3.6	Are welds and procedures acceptable under the provisions of AWS D15.1; AAR *MSRP* Specification M-1001, Chapter 5.0; and Appendix D of this standard?	
	3.7	Tank car welds on stub sill reinforcing plate meet Specification M-1001, paragraph 6.1.2.7	
	3.8	Are electrodes, wire, and gas shield properly stored and identified?	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Welcome
MID Services
Field Manual Rule 1 Publications
Field Manual Gage Use Demonstration Videos
MID Contact
Technical Checklist
MID Customer Survey
HOME
COMMITTEES
APPROVALS
MECHANICAL INSPECTION
FREQUENCY COORDINATION
BUREAU OF EXPLOSIVES (BOE)
Technical Checklist
Freight Car Facility Checklist
(Click here for the Spanish Version)
M-212 Checklist
(Click here for the Spanish Version)
M-214 Checklist
(Click here for the Spanish Version)
Bearing Mounting Checklist
(Click here for the Spanish Version)
Freight Car Air Brake Facility Checklist
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Rule 88 Sample Car Checklist
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New Car Builder Checklist
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Wheel Shop Inspection Sheet
(Click here for the Spanish Version)
Roller Bearing Maintenance Inspection
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Intermodal Checklist
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QUESTIONS?

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Thank you

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